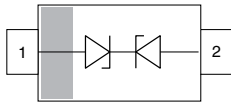
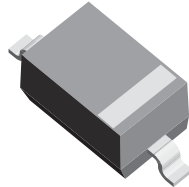


# Low Capacitance, Single-Line ESD-Protection Diode in SOD-323



20503



22756 SOD-323

**MARKING** (example only)


XYZ = type code (see table below)  
bar = pin 1

**FEATURES**

- For LIN-Bus applications
- Small SOD-323 package
- Working range: -16 V; +26.5 V
- Low leakage current  $I_R < 0.05 \mu\text{A}$
- Low load capacitance  $C_D < 18 \text{ pF}$
- ESD-protection acc. IEC 61000-4-2  
± 30 kV contact discharge  
± 30 kV air discharge
- ESD capability according to AEC-Q101:  
human body model: class H3B: > 8 kV
- e3 - pins plated with tin (Sn)
- 1-line ESD-protection
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

| ORDERING INFORMATION  |                                |  |       |            |   |   |                         |
|-----------------------|--------------------------------|--|-------|------------|---|---|-------------------------|
| PART NUMBER (EXAMPLE) | ENVIRONMENTAL AND QUALITY CODE |  |       |            | PACKAGING CODE                              |   | ORDERING CODE (EXAMPLE) |
|                       | AEC-Q101 QUALIFIED             | RoHS-COMPLIANT + LEAD (Pb)-FREE TERMINATIONS |       | TIN PLATED | 3K PER 7" REEL (8 mm TAPE)<br>15K/BOX = MOQ | 10K PER 13" REEL (8 mm TAPE)<br>10K/BOX = MOQ |                         |
|                       |                                | STANDARD                                     | GREEN |            |   |   |                         |
| VLIN1626-02G          | -                              | E  | -     | 3          | -08   | -   | VLIN1626-02G-E3-08      |
| VLIN1626-02G          | H                              | E  | -     | 3          | -08   | -   | VLIN1626-02GHE3-08      |
| VLIN1626-02G          | -                              | E  | -     | 3          | -   | -18   | VLIN1626-02G-E3-18      |
| VLIN1626-02G          | H                              | E  | -     | 3          | -   | -18   | VLIN1626-02GHE3-18      |

| PACKAGE DATA |              |           |         |                                      |                                   |                              |
|--------------|--------------|-----------|---------|--------------------------------------|-----------------------------------|------------------------------|
| DEVICE NAME  | PACKAGE NAME | TYPE CODE | WEIGHT  | MOLDING COMPOUND FLAMMABILITY RATING | MOISTURE SENSITIVITY LEVEL        | SOLDERING CONDITIONS         |
| VLIN1626-02G | SOD-323      | 6A1       | 4.30 mg | UL 94 V-0                            | MSL level 1 (according J-STD-020) | Peak temperature max. 260 °C |

| ABSOLUTE MAXIMUM RATINGS |   |           |             |      |
|--------------------------|---|-----------|-------------|------|
| PARAMETER                | TEST CONDITIONS   | SYMBOL    | VALUE       | UNIT |
| Peak pulse current       | Pin 1 to pin 2; $T_A = 25 \text{ }^\circ\text{C}$ , acc. IEC 61000-4-5; $t_p = 8/20 \mu\text{s}$ ; single | $I_{PPM}$ | 6           | A    |
|                          | Pin 2 to pin 1; $T_A = 25 \text{ }^\circ\text{C}$ , acc. IEC 61000-4-5; $t_p = 8/20 \mu\text{s}$ ; single |           | 4           |      |
| Peak pulse power         | $T_A = 25 \text{ }^\circ\text{C}$ , acc. IEC 61000-4-5; $t_p = 8/20 \mu\text{s}$ ; single shot            | $P_{PP}$  | 200         | W    |
| ESD immunity             | Contact discharge acc. IEC 61000-4-2; 10 pulses, $T_A = 25 \text{ }^\circ\text{C}$                        | $V_{ESD}$ | ± 30        | kV   |
|                          | Air discharge acc. IEC 61000-4-2; 10 pulses, $T_A = 25 \text{ }^\circ\text{C}$                            |           | ± 30        |      |
| Operating temperature    | Junction temperature  | $T_J$     | -55 to +150 | °C   |
| Storage temperature      |   | $T_{STG}$ | -55 to +150 |      |



| ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |  |                      |      |      |      |       |
|---|--|----------------------|------|------|------|-------|
| PARAMETER   | TEST CONDITIONS / REMARKS  | SYMBOL               | MIN. | TYP. | MAX. | UNIT  |
| Protection paths  | Number of lines which can be protected                             | N <sub>channel</sub> | -    | -    | 1    | lines |
| Reverse stand-off voltage   | Pin 1 to pin 2; max. reverse working voltage                       | V <sub>RWM</sub>     | -    | -    | 16   | V     |
|   | Pin 2 to pin 1; max. reverse working voltage                       |                      | -    | -    | 26.5 |       |
| Reverse voltage   | Pin 1 to pin 2; at I <sub>R</sub> = 0.05 μA                        | V <sub>R</sub>       | 16   | -    | -    | V     |
|   | Pin 2 to pin 1; at I <sub>R</sub> = 0.05 μA                        |                      | 26.5 | -    | -    |       |
| Reverse current   | Pin 1 to pin 2; at V <sub>RWM</sub> = 16 V                         | I <sub>R</sub>       | -    | -    | 0.05 | μA    |
|   | Pin 2 to pin 1; at V <sub>RWM</sub> = 26.5 V                       |                      | -    | -    | 0.05 |       |
| Reverse breakdown voltage   | Pin 1 to pin 2; at I <sub>R</sub> = 1 mA                           | V <sub>BR</sub>      | 17.1 | 18.7 | 20.3 | V     |
|   | Pin 2 to pin 1; at I <sub>R</sub> = 1 mA                           |                      | 28   | 30   | 32   |       |
| Reverse clamping voltage  | Pin 1 to pin 2; at I <sub>PP</sub> = 1 A; t <sub>p</sub> = 8/20 μs | V <sub>C</sub>       | -    | 22   | 25   | V     |
|   | Pin 1 to pin 2; at I <sub>PP</sub> = 6 A; t <sub>p</sub> = 8/20 μs |                      | -    | 29   | 33   |       |
|   | Pin 2 to pin 1; at I <sub>PP</sub> = 1 A; t <sub>p</sub> = 8/20 μs |                      | -    | 32   | 40   |       |
|   | Pin 2 to pin 1; at I <sub>PP</sub> = 4 A; t <sub>p</sub> = 8/20 μs |                      | -    | 39   | 50   |       |
| Capacitance   | At V <sub>R</sub> = 0 V, f = 1 MHz                                 | C <sub>D</sub>       | -    | 15.5 | 18   | pF    |

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

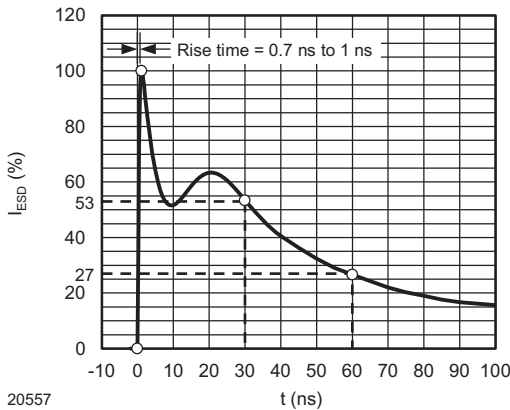


Fig. 1 - ESD Discharge Current Wave Form acc. IEC 61000-4-2 (330 Ω / 150 pF)

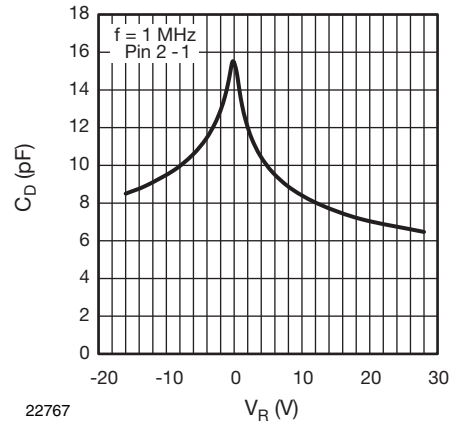


Fig. 3 - Typical Capacitance C<sub>D</sub> vs. Reverse Voltage V<sub>R</sub>

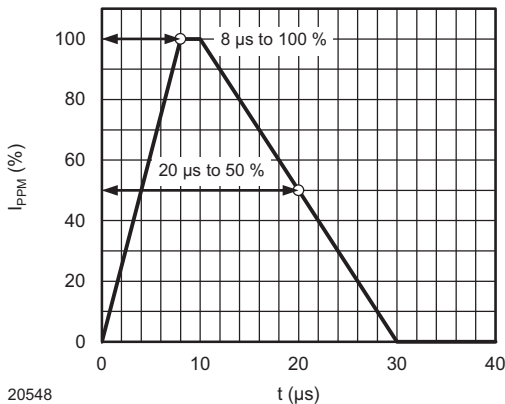


Fig. 2 - 8/20 μs Peak Pulse Current Wave Form acc. IEC 61000-4-5

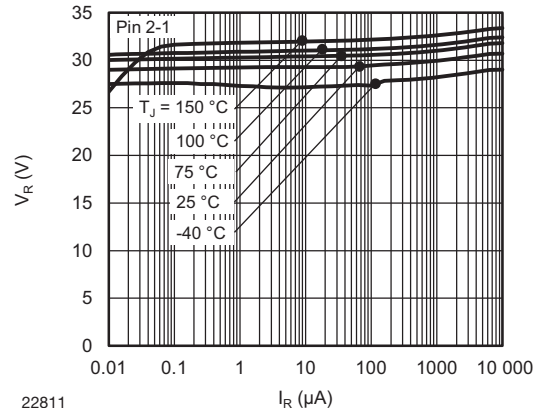
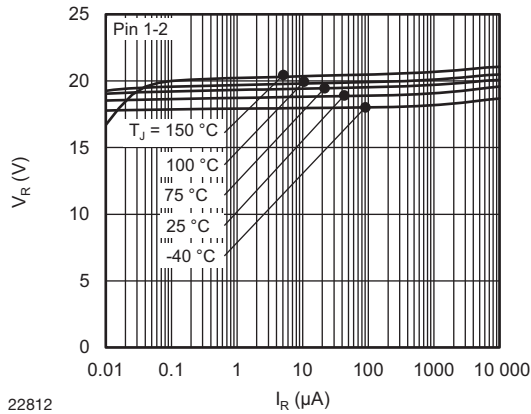
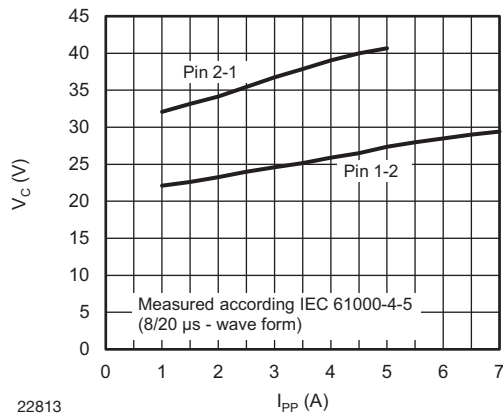


Fig. 4 - Typical Reverse Voltage V<sub>R</sub> vs. Reverse Current I<sub>R</sub>



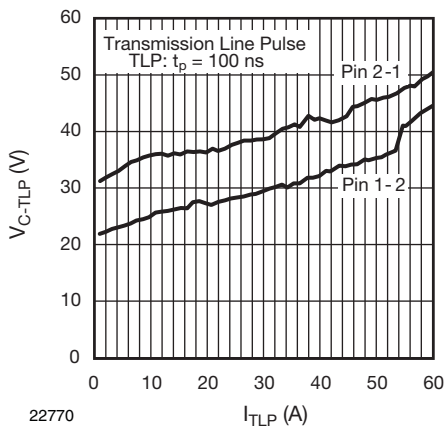
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Fig. 5 - Typical Reverse Voltage  $V_R$  vs. Reverse Current  $I_R$



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Fig. 6 - Typical Peak Clamping Voltage  $V_C$  vs. Peak Pulse Current  $I_{PP}$

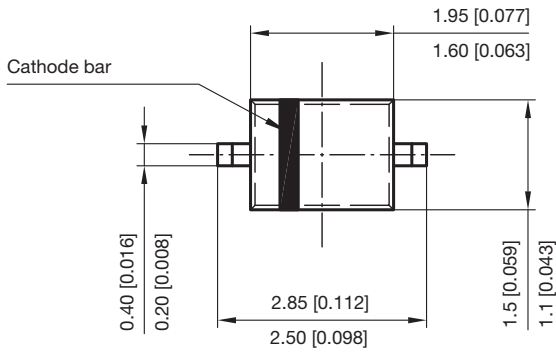
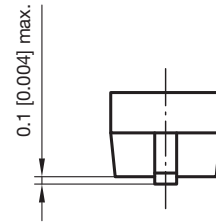
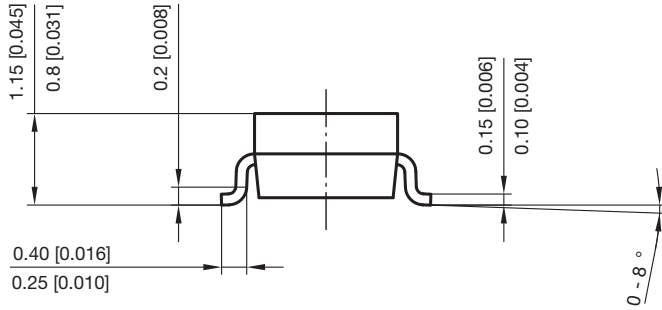


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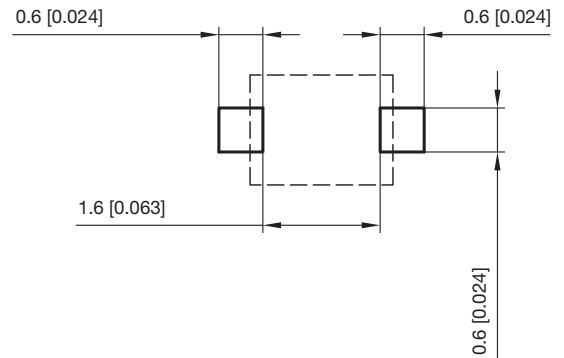
Fig. 7 - Typical Clamping Voltage  $V_{C-TLP}$  vs. Pulse Current  $I_{TLP}$



PACKAGE DIMENSIONS in millimeters (inches) SOD-323



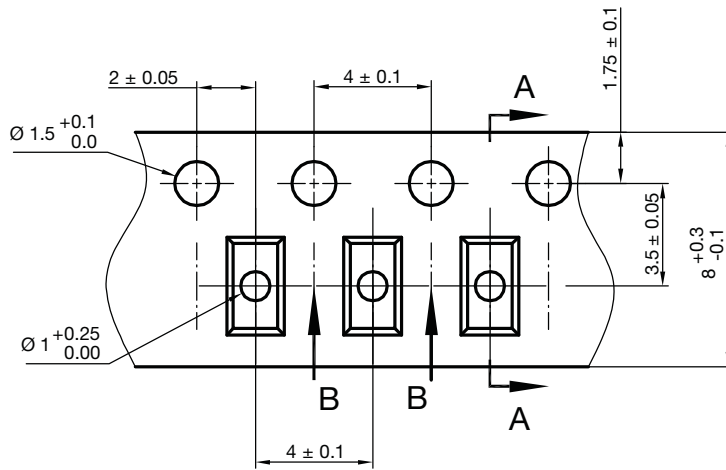
Foot print recommendation:



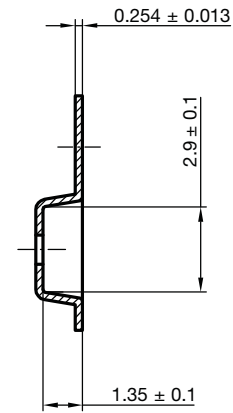
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 Rev. 5 - Date: 23.Sept.2009  
 22771



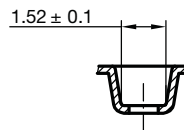
CARRIER TAPE SOD-323



A-A Section

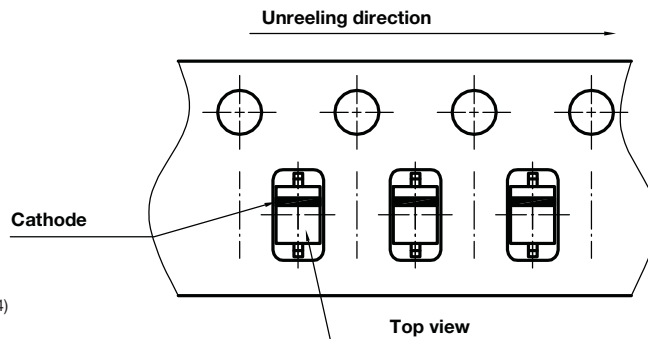


B-B Section



Document no.: S8-V-3717.07-002 (4)  
Created - Date: 09. Feb. 2010  
22824

ORIENTATION IN CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-003 (4)  
Created - Date: 09. Feb. 2010  
22772



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